

Technical Branch
Science & Engineering Group
Para-Professional Engineering Series

ENGINEERING TECHNICIAN III

04/98 (TLW)

Summary

Under general supervision, perform difficult technical functions to support engineering projects which includes supervising subordinates engaged in various phases of such activities.

Typical Duties

Develop and draft plans and specifications from sketches, diagrams, raw data and narrative verbal descriptions for any combination of diverse projects such as water, sewer or storm drain lines, drainage, runoff control or related site or street development or modification. Involves: researching existing structures and designs, gathering statistical data, entering into system and manipulating to produce useful information; modifying existing plans or drawings to reflect changes to plans or existing conditions; creating design sketches and diagrams for feasibility and engineering design development and approval; creating final designs on minor projects; coordinating design changes with contractors, engineers and architects; preparing and analyzing cost estimates to ensure project feasibility; verifying invoices for professional services.

Direct field surveys and ensure recording of information collected. Involves: receiving and reviewing work orders; resolving scheduling and priority problems as requested; assigning survey team(s) to gather data; recording data onsite, either in field books or electronically; overseeing crew in performance of field survey work and operating total station or standard surveying equipment; transferring gathered survey data to permanent record by drafting methods or electronically; verifying plan drawing data transferred to onsite information such as staking boundaries, setting vertical and horizontal elevations, marking existing utility locations, conducting metes and bounds surveys.

Review plans, drawings and calculations for completeness, accuracy and compliance with required ordinances and other related codes in support of engineering projects associated with commercial construction, site development, streets, drainage, water or sewer lines, or storm water management or residential subdivisions. Involves: examining individual plan components to ensure that code mandated items are included; verifying that plans and drawings drawn to scale with sufficient clarity and detail to indicate nature and character of work to determine conformance to technical code and ordinance requirements; noting instances of noncompliance on plans and correction sheet and suggesting modifications to bring plans into compliance; submitting reports detailing items of noncompliance for correction; analyzing completed project deficiencies such as line breaks, drainage problems to develop correction plans; discussing construction and plan discrepancies with contractors, engineers, architects and the general public; resolving minor disputes.

Conduct inspections of construction sites to ensure conformance to plan specifications and technical code requirements. Involves: measuring actual construction work and comparing to plan; verifying parking layouts, grading, drainage, horizontal and vertical elevations; conducting special inspections to ensure work completed is acceptable for payment by checking quality of work; reviewing inspection reports, resolving minor disputes and alternate construction methods used by contractor; marking existing utility locations; issuing Class "C" citations as required.

Analyze complex water or sewer distribution systems and related operating problems. Involves: developing statistical data and recommending servicing of existing potable water, sewer and fire suppression lines; studying existing water usage and distribution and sewer systems; maintaining fire hydrant, main breakage, and pressure regulator data base. recommending technical procedures associated with line replacements, solutions to pressure problems and installation of pressure regulators; reviewing adequacy of piping to meet pressure requirements; measuring and recording effects of water main breaks.

Supervise technical and clerical support staff as assigned. Involves: scheduling, assigning, instructing, guiding, checking and evaluating work; arranging for or engaging in employee training and development; enforcing personnel rules and regulations, standards of conduct, work attendance, and safe work practices; counseling, motivating and maintaining harmonious working relationships among subordinates; recommending staffing and employee status changes; interviewing applicants.

Perform related duties as assigned. Involves: performing any duties of supervisor, subordinates or coworkers, if required, during temporary absences sufficient to maintain continuity of normal operations; maintaining records and engineering document files; investigating and gathering information and data for special inquiries and complaints.

Minimum Qualifications

Training and Experience: Completion of an Associate's Degree in Engineering Technology, Drafting Technology or related field and four (4) years increasingly responsible para-professional engineering experience; or an equivalent combination of training and experience.

Knowledge, Abilities and Skills: Considerable knowledge of: principles and techniques of engineering design and field surveying. Good knowledge of: mathematics related to engineering; manual and computer aided design drafting (CADD) techniques.

Ability to: prepare draft design drawings based on engineering requirements, and develop applications of technical procedures in support of engineering projects; interpret surveying data, plans, drawings, specifications, and relate to applicable codes and regulations; identify variances from plan specifications to resolve problems and minor disputes regarding discrepancies between designs and construction; manually or with the aid of computer equipment draft engineering documents and perform related mathematical calculations; apply hydraulics principles; prepare technical reports, spreadsheets, charts and graphs pertaining to assigned activities using a variety of computer software applications; prepare construction and equipment cost estimates and specifications; lead and direct survey crew; enforce codes with firmness, tact and impartiality; simultaneously monitor details of numerous small projects; express oneself clearly and concisely, both orally and in writing; maintain effective working relationships with fellow employees, contractors and the general public.

Skill in the safe operation and care of: personal computer or network work station, including CADD, word processing, spreadsheets and database software; standard drafting instruments; surveying instrumentation and time and distance measuring devices; motor vehicle through city traffic.

Physical Requirements: Frequent: close visual concentration to draft design drawings; exposure to adverse weather conditions; walking, standing and climbing on rough terrain and construction sites. Occasional: stooping, bending, lifting and carrying objects and equipment (up to 30 lbs).

Special Requirements: Subject to call back, and working flexible hours, weekends, holidays and mandatory overtime, as required.

Licenses and Certificates: Texas Class "C" Driver's License or equivalent from State of residence.

Director of Personnel

Department Head